

20040224.qrp v03\_n207.qrl.20040224

Date: Tue, 24 Feb 2004 19:03:04 EST  
From: qrp-l@Lehigh.EDU  
To: "Low Power Amateur Radio Discussion" <qrp-l@Lehigh.EDU>  
Subject: QRP-L digest 3207

QRP-L Digest 3207

Topics covered in this issue include:

- 1) [169008] Hustler 6BVT Vertical  
by "Carl Morris, WN3DUG" <cwmorris@pa.net>
- 2) [169009] Hustler 6BTV Vertical  
by "Carl Morris, WN3DUG" <cwmorris@pa.net>
- 3) [169010] N6IJ Open House after Radiofest  
by Eric Swartz WA6HHQ - Elecraft <eric@elecraft.com>
- 4) [169011] Mark - Email is rejected  
by "NZ8J" <nz8j@woh.rr.com>
- 5) [169012] RE: Hustler 6BTV Vertical  
by "J. Michael Thurman" <jmthurman@centurytel.net>
- 6) [169013] WTB 20 Meter QRP  
by Ed Howell <kb2nto@yahoo.com>
- 7) [169014] New List address  
by brianboschma <brianb@brianboschma.com>
- 8) [169015] How to Sign Up for QRP-L@qth.net  
by "W.D. (Doc) Lindsey" <dock0evz@earthlink.net>
- 9) [169016] New Home for FOX Hunts  
by "W.D. (Doc) Lindsey" <dock0evz@earthlink.net>
- 10) [169017] Xtal Hunting  
by "Steve McDonald" <jsm@gulfislands.com>
- 11) [169018] Instruction on how to sign up for QRP-L@mailman.qth.net---the new list  
by "Trevor Jacobs" <kg6cyn@softhome.net>
- 12) [169019] Michigan QRP Net  
by kwise@gdls.com
- 13) [169020] Re: Transparent Resistor?  
by Curt Milton <wb8yyy@yahoo.com>
- 14) [169021] Hustler 6BVT Vertical and Radials  
by "James R. Duffey" <JamesDuffey@comcast.net>
- 15) [169022] Re: Transparent Resistor?  
by KD5NWA <KD5NWA@cbayona.com>
- 16) [169023] Last of FS, 746pro + accs  
by "Rod N0RC" <rc7039-hr@yahoo.com>
- 17) [169024] LCD modules  
by "Rich Johnson" <rjohnson390@comcast.net>
- 18) [169025] Re: LCD modules  
by Shawn Upton <kb1ckt@yahoo.com>

- 19) [169026] Re: Transparent Resistor?  
by "Dave Benson" <nn1g@earthlink.net>
- 20) [169027] Need to Contact Stuart Rohre  
by "Doug Hendricks" <ki6ds@dpol.net>
- 21) [169028] Re: LCD modules  
by "Chetan Bhargava" <list3@bhargavaz.com>
- 22) [169029] XTAL needed  
by "Chetan Bhargava" <list3@bhargavaz.com>
- 23) [169030] RE: LCD modules  
by "Boulineau, Lee" <lee.boulineau@attws.com>
- 24) [169031] And now for something FREE!!!  
by "Rod N0RC" <rc7039-hr@yahoo.com>
- 25) [169032] Re: LCD modules  
by "John J. McDonough" <wb8rcr@arrl.net>
- 26) [169033] Re: XTAL needed  
by "John J. McDonough" <wb8rcr@arrl.net>
- 27) [169034] Re: LCD modules  
by "John" <digi2@earthlink.net>
- 28) [169035] Re: LCD modules  
by Steven Weber <kd1jv@moose.ncia.net>
- 29) [169036] Re: LCD modules  
by "Craig Johnson" <cbjohns@cbjohns.com>
- 30) [169037] Fox: Tonight's Hunt K2Q0 and N0IT  
by "sjolin" <sjolin@swbell.net>
- 31) [169038] Re: XTAL needed  
by "Chetan Bhargava" <list3@bhargavaz.com>
- 32) [169039] Re: LCD modules  
by "Mike Yetsko" <myetsko@insydesw.com>

-----  
Date: Mon, 23 Feb 2004 19:30:23 -0500  
From: "Carl Morris, WN3DUG" <cwmorris@pa.net>  
To: <qrp-l@Lehigh.EDU>  
Cc: <qrp-l@mailman.qth.net>  
Subject: [169008] Hustler 6BVT Vertical  
Message-ID: <01a001c3fa6d\$64c5cdd0\$2101a8c0@Carl>  
MIME-Version: 1.0  
Content-Type: text/plain;  
charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

Hi Paul, K2DB,

My Son, KB3FHN, and I have Hustler 6BTV Verticals,  
and are very pleased with them! I work the world with  
QRP or QRO, on my Elecraft K2/100, as does he.

Both are ground mounted on a 4' mast driven in the ground.

I would recommend making a ten turn loop, about 6" in diameter, in the coax at the base of the antenna, and again at the rig end. Don't forget lightning protection. No other ground radials are used, per the Hustler instructions, and the antenna works great!

72/73, Carl, WN3DUG

-----  
Date: Mon, 23 Feb 2004 19:41:31 -0500  
From: "Carl Morris, WN3DUG" <cwmorris@pa.net>  
To: <qrp-l@mailman.qth.net>  
Cc: <qrp-l@Lehigh.EDU>  
Subject: [169009] Hustler 6BTV Vertical  
Message-ID: <01ae01c3fa6e\$f29196c0\$2101a8c0@Carl>  
MIME-Version: 1.0  
Content-Type: text/plain;  
                charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

The thread title should be "Hustler 6BTV Vertical", sorry.

72/73, Carl, WN3DUG

-----  
Date: Mon, 23 Feb 2004 17:37:35 -0800  
From: Eric Swartz WA6HHQ - Elecraft <eric@elecraft.com>  
To: Elecraft List <elecraft@mailman.qth.net>, QRP-L <qrp-l@lehigh.edu>,  
        qrp-l@mailman.qth.net  
Subject: [169010] N6IJ Open House after Radiofest  
Message-ID: <403AAADF.2090607@elecraft.com>  
MIME-Version: 1.0  
Content-Type: text/plain; charset=us-ascii; format=flowed  
Content-Transfer-Encoding: 7bit

The Monterey Bay Amateur Radio Association will be holding an open house at our N6IJ club station after the Radiofest (Monterey, CA) hamfest this Saturday, Feb. 28th, from 12-5 PM.

See <http://www.n6ij.org> for details.

N6IJ is up Highway 1 in Marina a couple of exits from the exit for Radiofest. This is the old ARMY MARS facility at Ft. Ord that has now been converted to a ham radio club station with lots of room for big antennas and no neighbors :-)

In addition to operating the N6IJ station and antennas with our rigs (Multiple HF stations and VHF/UHF + Oscar stations), you can also see the latest rigs from Elecraft! Try the K1, K2 and KX1 rigs on the N6IJ super station antennas and work some DX! There may also be other commercial vendors attending with their wares.

73, Eric WA6HHQ

-----  
Date: Mon, 23 Feb 2004 21:25:20 -0500  
From: "NZ8J" <nz8j@woh.rr.com>  
To: <qrp-1@Lehigh.EDU>  
Subject: [169011] Mark - Email is rejected  
Message-ID: <00fb01c3fa7d\$73799630\$6400a8c0@NZ8J>  
MIME-Version: 1.0  
Content-Type: text/plain;  
                charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

Mark,

My emails to you since Friday have been rejected. Please email me..with your phone number, I'll call you..  
everything arrived fine.

73  
Tim  
NZ8J

Sorry to the reflector for the excess bandwidth...

-----  
Date: Mon, 23 Feb 2004 21:00:00 -0600  
From: "J. Michael Thurman" <jmthurman@centurytel.net>  
To: "Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>  
Subject: [169012] RE: Hustler 6BTV Vertical  
Message-ID: <LFEDLPKPGGKLEMOMICIBOENEDDAA.jmthurman@centurytel.net>  
MIME-Version: 1.0  
Content-Type: text/plain;

charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

I use the 5BTV. It's ground-mounted with 12 radials. I cut mine for each band and added two extra for 80m. It works great for all but near range work. I use a loop for that. A friend has one simliarly mounted, except he uses 16 radials all cut for 80m with great success. It's more wire, but it's much quicker work to install. We also used it for FD with the MFJ portable mount.

Another selling point is Hustler's customer service. I had a problem with my 10m trap. Two calls to Gary, one for a possible fix and one for a new trap, had the problem solved. A couple days later I got the new trap.

73,  
Michael  
WN5T

-----Original Message-----

From: owner-qrp-1@Lehigh.EDU [mailto:owner-qrp-1@Lehigh.EDU]On Behalf Of  
Carl Morris, WN3DUG  
Sent: Monday, February 23, 2004 6:30 PM  
To: Low Power Amateur Radio Discussion  
Subject: Hustler 6BVT Vertical

Hi Paul, K2DB,

My Son, KB3FHN, and I have Hustler 6BTV Verticals,  
and are very pleased with them! I work the world with  
QRP or QRO, on my Elecraft K2/100, as does he.

Both are ground mounted on a 4' mast driven in the ground.

I would recommend making a ten turn loop, about 6" in  
diameter, in the coax at the base of the antenna, and  
again at the rig end. Don't forget lightning protection.  
No other ground radials are used, per the Hustler  
instructions, and the antenna works great!

72/73, Carl, WN3DUG

-----  
Date: Mon, 23 Feb 2004 20:54:11 -0800 (PST)

From: Ed Howell <kb2nto@yahoo.com>  
To: qrp-l@lehigh.edu  
Subject: [169013] WTB 20 Meter QRP  
Message-ID: <20040224045411.88377.qmail@web14301.mail.yahoo.com>  
MIME-Version: 1.0  
Content-Type: text/plain; charset=us-ascii

Would like to buy a 20 Meter QRP rig. Something reasonably priced. Thank you...

-----  
Do you Yahoo!?  
Yahoo! Mail SpamGuard - Read only the mail you want.  
<http://antispam.yahoo.com/tools>

-----  
Date: Mon, 23 Feb 2004 20:59:57 -0800  
From: brianboschma <brianb@brianboschma.com>  
To: qrp-l@lehigh.edu  
Subject: [169014] New List address  
Message-ID: <403ADA4D.6050800@brianboschma.com>  
MIME-Version: 1.0  
Content-Type: text/plain; charset=ISO-8859-1; format=flowed  
Content-Transfer-Encoding: 7bit

Sorry to have to ask for this, where is the new list ?

The discussion here got so negative that I deleted everything rather than try to sort through it all. Missed the directions to the new list. Please just point me in the direction.

Thanks,  
Brian n6iz

-----  
Date: Mon, 23 Feb 2004 23:39:48 -0600  
From: "W.D. (Doc) Lindsey" <dock0evz@earthlink.net>  
To: "qrp-l reflector" <qrp-l@lehigh.edu>  
Cc: "doc k0evz earthlink" <dock0evz@earthlink.net>  
Subject: [169015] How to Sign Up for QRP-L@qth.net  
Message-ID: <412004222453948218@earthlink.net>  
MIME-Version: 1.0  
Content-type: text/plain; charset=US-ASCII

Gang:

In case someone still needs the info, here is Jim Lowman's posting on how to register for QRP-L@qth.net = the new home for the FOX Hunt. There is still time to register before the old QRP-L stops receiving postings on 29 February 2004.

Thanks Jim, and welcome aboard, fellow QRPers.

73,

--Doc/K0EVZ

> [Original Message]

> From: Jim Lowman <jmlowman@sbcglobal.net>

> To: Low Power Amateur Radio Discussion <qrp-l@Lehigh.EDU>

> Date: 2/21/2004 9:45:51 PM

> Subject: Welcome message from Jim at QRP-L@qth.net

>

> Greetings to everyone! Sorry that I didn't introduce myself earlier,  
> but I have been

> working since Thursday evening to honor subscription requests on my  
> formerly-quiet

> QRP-L list at QTH.net. At the end of January there were only 149

> members on the

> list, and only one message was posted all month. Now we are at 695

> members and the

> list traffic is reminiscent of this fine list that Jim has provided for  
> us over the years.

>

> I have decided to let those who want to make the move do so on their  
> own, as more

> than 500 have done already, instead of mass-subscribing everyone who is  
> on this list.

>

> To subscribe, go to: <http://www.qth.net/> and scroll down to the QRP-L  
> link. Click

> on this link, type in the e-mail address where you want to receive  
> messages from the

> list, provide a password and type it again, and choose whether you want  
> to receive

> individual messages from the list or a daily digest. Hit the

> "Subscribe" button and the

> process is on its way.

>

> I may send a message asking for further information. Once you have  
> provided that

> information the subscription process is complete, and you will receive a  
> "welcome"

> message. Please bear with me, as the number of subscription requests

> has been more  
> than 500 so far, and I understand that QRP-L@lehigh.edu has 2,000-4,500  
> members.  
>  
> Some questions that have come up so far:  
>  
> Q: Can I post to the list without subscribing?  
> A: Unfortunately, no. However, if you choose to read the archives  
> rather than receiving  
> individual messages or the daily digest, once you subscribe you can  
> choose the NOMAIL  
> option. You will receive no mail from the list, but will be able to  
> post messages as you like.  
>  
> Q: Why am I being asked these confirmation questions?  
> A: This is to keep spammers off the list.  
>  
> Q: Why is there no place to provide this confirmation information when  
> I apply for a subscription?  
> A: There are many ham-oriented lists at QTH.net and this requirement is  
> not universal. I don't have  
> the privileges to modify the subscription script to fit this need.  
>  
> I think you'll find the administration of your membership to be fairly  
> easy with the Mailman software,  
> since it is web-based rather than e-mail-based, as this list is. You  
> can change your password, switch  
> between individual message and digest format, turn your mail on or off,  
> all from the website.  
>  
> Naturally, if you have any problems subscribing, or have any other  
> questions, please send e-mail to:  
>  
> jmlowman@sbcglobal.net  
>  
> Thanks, and welcome to those who want to make the move!  
>  
> 72/73 de Jim - AD6CW  
>  
>  
>

--- W.D. (Doc) Lindsey  
--- dock0evz@earthlink.net  
--- EarthLink: The #1 provider of the Real Internet.



-----  
Date: Mon, 23 Feb 2004 23:44:17 -0600  
From: "W.D. (Doc) Lindsey" <dock0evz@earthlink.net>  
To: "qrp-l reflector" <qrp-l@lehigh.edu>  
Cc: "doc k0evz earthlink" <dock0evz@earthlink.net>,  
"Lloyd Lachow" <llachow@yahoo.com>,  
Subject: [169016] New Home for FOX Hunts  
Message-ID: <412004222454417295@earthlink.net>  
MIME-Version: 1.0  
Content-type: text/plain; charset=US-ASCII

Gang:

The FOX Hunts will be moving to QRP-L on QTH.Net. If you have not signed up yet, you will want to do so ASAP. Jim Lowman says that they are all caught up on new subscribers. Mine went right through with no problems whatsoever.

Quoting from Jim's recent e-mail: "To subscribe, go to:  
<http://www.qth.net/> and scroll down to the QRP-L link. Click on this link, type in the e-mail address where you want to receive messages from the list, provide a password and type it again, and choose whether you want to receive individual messages from the list or a daily digest. Hit the 'Subscribe' button and the process is on its way."

73,

--Doc/K0EVZ for the FOX Committee: Tom N1TP, Lloyd K3ESE, Marshall N1FN, Bruce VE5RC, and emeritus member Chuck Adams K7Q0.

--- W.D. (Doc) Lindsey  
--- dock0evz@earthlink.net  
--- EarthLink: The #1 provider of the Real Internet.

-----  
Date: Mon, 23 Feb 2004 22:25:42 -0800

From: "Steve McDonald" <jsm@gulfislands.com>  
To: "Low Power Amateur Radio Discussion" <qrp-l@Lehigh.EDU>  
Subject: [169017] Xtal Hunting  
Message-ID: <003201c3fa9f\$081bf5a0\$ea1179d1@jsm>  
MIME-Version: 1.0  
Content-Type: text/plain;  
          charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

Would anyone have a rock in the 1700 - 1705 kHz range in their junk  
boxes?....he asked hopefully.

Steve / VE7SL

Web: "THE VE7SL RADIO NOTEBOOK" at <http://www.imagenisp.ca/jsm>  
[L.F. Loop] [Tuna Tin DX] [H.F. Maritime DX] [Crystal Radio DXing] [136 kHz  
Band]

-----  
Date: Mon, 23 Feb 2004 23:55:29 -0800  
From: "Trevor Jacobs" <kg6cyn@softhome.net>  
To: "Low Power Amateur Radio Discussion" <qrp-l@lehigh.edu>  
Subject: [169018] Instruction on how to sign up for QRP-L@mailman.qth.net---the  
new list  
Message-ID: <00f401c3faab\$935b6d60\$38fea8c0@TREVORMAINPC>  
MIME-Version: 1.0  
Content-Type: text/plain;  
          charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

Hey Gang,

It's real simple to sign up for the new QRP-L list.

Step #1: First point your browser to(click the link below):

<http://mailman.qth.net/mailman/listinfo/qrp-l>

Step #2: On the web page you will see a section titled "Subscribing to  
QRP-L". Enter your e-mail address in the "Your email address" entry box.

Step #3: Pick a password for your account and enter it in the box marked

"Pick a password" and then enter the same password in the box marked "Reenter password to confirm". This password will be used to change your settings on the list such as digest mode, etc.

Step #4: If you would like the e-mails in daily digest form click yes on the line marked "Would you like to receive list mail batched in a daily digest?"

Step #5: Click on the "Subscribe" button below the information that you just entered.

Now, keep in mind that you are not instantly subscribed to the list. Jim Lowman (the list owner/moderator/guy in charge) has to approve you. If your e-mail address does not have an amateur callsign in it, he will most likely ask for this information before approving you. This is an effort to block Spam Mail so be patient. After you send your info to Jim, you'll get access...

Hope this helps and I'm looking forward to seeing all of you on the new home of QRP-L!

73's Trev - KG6CYN  
<http://www.qsl.net/kg6cyn>

-----  
Date: Tue, 24 Feb 2004 07:38:48 -0500  
From: kwike@gdls.com  
To: qrp-l@Lehigh.EDU  
Subject: [169019] Michigan QRP Net  
Message-ID: <0FE27DE21B.057E79C9-0N85256E44.00455947@gdls.com>  
MIME-Version: 1.0  
Content-type: text/plain; charset=us-ascii

We had eleven check-ins last week. 80 seemed to be back to normal for now.

|          | S   | R   |                       |
|----------|-----|-----|-----------------------|
| WA8BXN   | 599 | 599 | CLEVELAND OH MIKE     |
| W8IQB    | 599 | 599 | BRISTOL MI LOWELL     |
| WS3K     | 589 | 569 | LEWISTOWN PA DON      |
| W2SH     | 589 | 589 | MILLINGTON NJ CHARLES |
| AA1MY    | 339 | 569 | BETHEL ME SEAB        |
| WA8REI/4 | 449 | 579 | FL KEN                |
| K1YPP    | 229 |     | DENNIS                |
| K8JRO    | 599 |     | FLINT MI JERRY        |
| KA8ONW   | 599 | 599 | MASON MI MARK         |
| NA8M     | 599 | 599 | GRAND RAPIDS MI JOHN  |
| K1CL     | 339 |     | CHELMSFORD MA CHUCK   |

The Michigan QRP Net meets each Tuesday night at 9:00 PM Eastern time on 3.535 MHz. +/- QRM. All hams are welcome.

Ed  
AB8DF  
Waterford, MI

Contest: ARRL Intl. DX (W/VE)

| Band   | QSOs | Points | Mult's |
|--------|------|--------|--------|
| 160    | 0    | 0      | 0      |
| 80     | 0    | 0      | 0      |
| 40     | 16   | 48     | 13     |
| 20     | 42   | 126    | 29     |
| 15     | 27   | 81     | 21     |
| 10     | 29   | 87     | 21     |
| 6      | 0    | 0      | 0      |
| 2      | 0    | 0      | 0      |
| Totals | 114  | 342    | 84     |

Total Score: 28728 Points

-----  
Date: Tue, 24 Feb 2004 09:40:16 -0800 (PST)  
From: Curt Milton <wb8yyy@yahoo.com>  
To: Low Power Amateur Radio Discussion <qrp-l@Lehigh.EDU>  
Subject: [169020] Re: Transparent Resistor?  
Message-ID: <20040224174016.23955.qmail@web60810.mail.yahoo.com>  
MIME-Version: 1.0  
Content-Type: text/plain; charset=us-ascii

I don't have an immediate answer for what the material is. As sapphire is very difficult to machine, I think it is something else. Most likely it is some kind of glass. But why it happens to be blue I don't know.

curt wb8yyy

--- Brad Hernlem <alihernlem@hotmail.com> wrote:

> OK, I have here a disassembled N type coaxial  
> terminator:  
>  
>  
<http://www.geocities.com/alibhernlem/Radio/Nterminator.html>  
>  
> On examining this, I discovered that the resistive  
> element is a clear blue  
> (looks like sapphire rod) cylinder. You can see it  
> in the picture. And yes,  
> it DOES have conductivity through its surface (not  
> just an insulator around  
> some fine wire running down the middle or something  
> like that).  
>  
> What is that stuff? Is it glass (or sapphire) with a  
> thin surface film of  
> the resistive material? A thin film COULD account  
> for the color or it could  
> actually BE sapphire (for heat dissipative  
> excellence). A thin film like  
> that around a cylinder makes sense for good RF  
> properties to very high  
> frequencies.  
>  
> Any of you know what is the straight dope on this?  
>  
> Brad  
>  
> P.S. the resistance is about 53 ohms.  
>  
>

---

> Say good-bye to spam, viruses and pop-ups with MSN  
> Premium -- free trial  
> offer!  
>  
<http://click.atdmt.com/AVE/go/onm00200359ave/direct/01/>  
>

---

Do you Yahoo!?  
Yahoo! Mail SpamGuard - Read only the mail you want.  
<http://antispam.yahoo.com/tools>

---

Date: Tue, 24 Feb 2004 10:50:23 -0700  
From: "James R. Duffey" <JamesDuffey@comcast.net>  
To: <cwmorris@pa.net>  
Cc: <qrp-1@mailman.qth.net>, <qrp-1@lehigh.edu>  
Subject: [169021] Hustler 6BVT Vertical and Radials  
Message-ID: <BC60DCEF.12567%JamesDuffey@comcast.net>  
Mime-version: 1.0  
Content-type: text/plain; charset="US-ASCII"  
Content-transfer-encoding: 7bit

Carl and the list- Your recommendation of a coiled coax choke balun at the base of the 6BTV is an excellent one, not just for the 6BTV, but for all verticals. Often the noise pickup associated with verticals is due to pickup on the shield of the coax. The coax coil will prevent that.

Despite your success with the 6BTV, I think that most people who use ground mounted verticals would be happier with the performance if some radials were used. Sommer had a good discussion of the optimal use of wire in a radial system in the August 2003 QST. For a length of wire L, the optimum number of radials for a frequency f (in MHz) and ground conductivity s is

$$n=2.25L^{0.5}(sf)^{0.25}$$

So, say I have 500 feet of wire (< \$20 at Lowes) and my ground is of average conductivity,  $s=0.5$  Siemens/meter, and I want to have a radial system for 7 MHz;

$$n=2.25((500)^{0.5})*((0.005*7)^{0.25})$$

$n=21.7$ , so I can round up to 22 radials. Each radial will be  $500/22$  or 22.7 feet long.

For a multiband system, design the radial system for the lowest band that you are active on. 40 M is usually a good choice for typical quarter wave ground mounted verticals. You can find your soil conductivity from the Handbook or Antenna Book. If you don't know your soil conductivity, assume good conductivity, 0.01. This will maximize the number of radials.

If you don't have a nice symmetrical layout in your yard for even length radials, you can use uneven length radials. Install the radials so that the ends are spaced according to:

$$d=1.24*((s*f)^{-0.5})$$

Where s and f are defined above. For  $s=0.005$  and  $f = 7$  MHz,  $d = 6.6$  feet.

Start at the edge of your yard and run a radial to the vertical. Move around the perimeter of the area your antenna is in installing a radial every 6.6

feet.

You can slit the earth with a lawn edger, either manual or powered to install the radial. Or you can cut the grass very short in the spring and install the radials tight against the earth. Then let the grass grow up around it.

By the way, if you can't find a calculator, the right hand sides of the above equations with the appropriate numbers inserted can be entered into Google for evaluation.

Verticals can be good antennas, but they do need a good ground to be most effective. Most people have radial systems that have too few radials that are too long.

Nice to see QRP-L migrating in an orderly fashion to QTH.net. Consider this my test message. I hope that Jim L. doesn't tell anybody where he works.  
:^)=

I hope that this post helps someone. - Dr. Megacycle KK6MC/5

-----  
James R. Duffey KK6MC/5  
Cedar Crest NM 87008 DM65

-----  
Date: Tue, 24 Feb 2004 12:00:34 -0600  
From: KD5NWA <KD5NWA@cbayona.com>  
To: "Low Power Amateur Radio Discussion" <qrp-l@lehigh.edu>  
Subject: [169022] Re: Transparent Resistor?  
Message-ID: <5.2.0.9.0.20040224115436.00b2b7b0@127.0.0.1>  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"; format=flowed

Sapphire is used in high radiation resistant IC's, as a substrate because it's a excellent insulator, they call it Silicon on Sapphire, it yields very fast transistors that are very immune to radiation while consuming low power, so if it is sapphire, it must have something added, also sapphire is not cheap.

Most likely it's some kind of ceramic or glass with a contaminant added to turn it into a resistor but that is just guessing.

At 11:40 AM 2/24/2004, Curt Milton wrote:  
>I don't have an immediate answer for what the material  
>is. As sapphire is very difficult to machine, I think  
>it is something else. Most likely it is some kind of

>glass. But why is happens to blue I don't know.  
>  
>curt wb8yyy  
>  
>--- Brad Hernlem <alihernlem@hotmail.com> wrote:  
> > OK, I have here a disassembled N type coaxial  
> > terminator:  
> >  
> >  
><http://www.geocities.com/alibhernlem/Radio/Nterminator.html>  
> >  
> > On examining this, I discovered that the resistive  
> > element is a clear blue  
> > (looks like sapphire rod) cylinder. You can see it  
> > in the picture. And yes,  
> > it DOES have conductivity through its surface (not  
> > just an insulator around  
> > some fine wire running down the middle or something  
> > like that).  
> >  
> > What is that stuff? Is it glass (or sapphire) with a  
> > thin surface film of  
> > the resistive material? A thin film COULD account  
> > for the color or it could  
> > actually BE sapphire (for heat dissipative  
> > excellence). A thin film like  
> > that around a cylinder makes sense for good RF  
> > properties to very high  
> > frequencies.  
> >  
> > Any of you know what is the straight dope on this?  
> >  
> > Brad  
> >  
> > P.S. the resistance is about 53 ohms.  
> >  
> >  
> -----  
> > Say good-bye to spam, viruses and pop-ups with MSN  
> > Premium -- free trial  
> > offer!  
> >  
><http://click.atdmt.com/AVE/go/onm00200359ave/direct/01/>  
> >  
>  
>  
> -----  
>Do you Yahoo!?



>Yahoo! Mail SpamGuard - Read only the mail you want.  
><http://antispam.yahoo.com/tools>

Cecil  
KD5NWA

-----  
Date: Tue, 24 Feb 2004 11:06:12 -0700  
From: "Rod N0RC" <rc7039-hr@yahoo.com>  
To: "qrp-l" <qrp-l@Lehigh.EDU>  
Subject: [169023] Last of FS, 746pro + accs  
Message-ID: <001901c3fb00\$e3afd8f0\$6401a8c0@greyrock>  
MIME-Version: 1.0  
Content-Type: text/plain;  
                charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

Details here: <http://users.frii.com/rwc/fs/746pro.html>

73, Rod N0RC

-----  
Date: Tue, 24 Feb 2004 10:33:28 -0800  
From: "Rich Johnson" <rjohnson390@comcast.net>  
To: "Low Power Amateur Radio Discussion" <qrp-l@lehigh.edu>  
Subject: [169024] LCD modules  
Message-ID: <001d01c3fb04\$b2c9b3b0\$2605ab43@END0EB86CD98A1>  
MIME-Version: 1.0  
Content-Type: text/plain;  
                charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

Group:

Why would it ever be necessary to read back from an LCD module?  
I can't think of any.  
Therefore can the 'R/W' pin be tied to the write level to save an I/O pin on  
my PIC?

cheers,  
rich

-----  
Date: Tue, 24 Feb 2004 10:29:45 -0800 (PST)  
From: Shawn Upton <kb1ck1t@yahoo.com>  
To: qrp-1@lehigh.edu  
Subject: [169025] Re: LCD modules  
Message-ID: <20040224182945.26853.qmail@web60401.mail.yahoo.com>  
MIME-Version: 1.0  
Content-Type: text/plain; charset=us-ascii

Well, you could read it back in case you forgot...

Maybe it's like that WOM--Write Only Memory. Useful for certain cases.

Perhaps it's real use is if you're not keeping track of where the cursor is? Or for debug work (in case you think you're sending one thing but it's actually something else)?

Sorry, had to contemplate out loud... I don't see why not to tie it to the write level.

Shawn

--- Rich Johnson <rjohnson390@comcast.net> wrote:  
> Group:  
>  
> Why would it ever be necessary to read back from an  
> LCD module?  
> I can't think of any.  
> Therefore can the 'R/W' pin be tied to the write  
> level to save an I/O pin on  
> my PIC?  
>  
>  
> cheers,  
> rich  
>  
>

=====  
Shawn Upton, KB1CKT

-----  
Do you Yahoo!?

Yahoo! Mail SpamGuard - Read only the mail you want.  
<http://antispam.yahoo.com/tools>

-----  
Date: Tue, 24 Feb 2004 13:09:18 -0800  
From: "Dave Benson" <nn1g@earthlink.net>  
To: "Low Power Amateur Radio Discussion" <qrp-1@lehigh.edu>  
Subject: [169026] Re: Transparent Resistor?  
Message-ID: <000a01c3fb1a\$781d1840\$3e724b43@pavilion>  
MIME-Version: 1.0  
Content-Type: text/plain;  
                charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

It's likely Indium/Tin Oxide (ITO)-      conductive and optically fairly clear. It's used in 'invisible' windshield heating, especially in military applications. It sounds like a natural for dummy load use.

It's also used in flat-panel displays. Individual pixels on the display are addressed by 'rows' of conductors on one side of the active surface and 'columns' on the other side. The front side, at least, needs an optically-clear conductor so the emitted light isn't obscured.

73- Dave Benson, K1SWL

> >  
> > On examining this, I discovered that the resistive  
> > element is a clear blue  
> > (looks like sapphire rod) cylinder. You can see it  
> > in the picture. And yes,  
> > it DOES have conductivity through its surface (not  
> > just an insulator around  
> > some fine wire running down the middle or something  
> > like that).  
> >  
> > What is that stuff? Is it glass (or sapphire) with a  
> > thin surface film of  
> > the resistive material?

-----  
Date: Tue, 24 Feb 2004 10:24:49 -0800  
From: "Doug Hendricks" <ki6ds@dpol.net>  
To: <qrp-1@Lehigh.EDU>  
Subject: [169027] Need to Contact Stuart Rohre

Message-ID: <065c01c3fb03\$7cad1f20\$4a0b0d0a@dph.dpol.net>  
MIME-Version: 1.0  
Content-Type: text/plain;  
charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

Stuart, if you are reading this would you please email me? Thanks, Doug

-----  
Date: Tue, 24 Feb 2004 10:59:31 -0800  
From: "Chetan Bhargava" <list3@bhargavaz.com>  
To: "Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>  
Subject: [169028] Re: LCD modules  
Message-ID: <001901c3fb08\$579c0a20\$4301a8c0@Chetan>  
MIME-Version: 1.0  
Content-Type: text/plain;  
charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

To read the busy flag and to read the contents of DDRAM.

73,

Chetan Bhargava KG6NFG  
<http://www.bhargavaz.net>

----- Original Message -----  
From: "Rich Johnson" <rjohnson390@comcast.net>  
To: "Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>  
Sent: Tuesday, February 24, 2004 10:33 AM  
Subject: LCD modules

> Group:  
>  
> Why would it ever be necessary to read back from an LCD module?  
> I can't think of any.  
> Therefore can the 'R/W' pin be tied to the write level to save an I/O pin  
on  
> my PIC?  
>  
>  
> cheers,  
> rich  
>  
>

>  
>

-----  
Date: Tue, 24 Feb 2004 11:02:23 -0800  
From: "Chetan Bhargava" <list3@bhargavaz.com>  
To: "Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>  
Subject: [169029] XTAL needed  
Message-ID: <002c01c3fb08\$be1dccc0\$4301a8c0@Chetan>  
MIME-Version: 1.0  
Content-Type: text/plain;  
                charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

Hi Group,

I'm looking for XTAL 4.332 MHZ and 8.664 MHz does anyone happen to know source?

73,

Chetan Bhargava KG6NFG  
<http://www.bhargavaz.net>

-----  
Date: Tue, 24 Feb 2004 13:27:09 -0600  
From: "Boulineau, Lee" <lee.boulineau@attws.com>  
To: "Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>  
Subject: [169030] RE: LCD modules  
Message-ID: <3CD5FC1B2837DC46BC77FDDF187C26E3149DAE@tx-msg07-ccc.wireless.attws.com>  
content-class: urn:content-classes:message  
MIME-Version: 1.0  
Content-Type: text/plain;  
                charset="iso-8859-1"  
Content-Transfer-Encoding: quoted-printable

the LCD may be busy - you have to read the 'flag' on it (I think this is = correct, but I don't have my handbooks)

Lee N4MVL

-----Original Message-----

From: owner-qrp-1@Lehigh.EDU [mailto:owner-qrp-1@Lehigh.EDU] On Behalf Of Rich Johnson

Sent: Tuesday, February 24, 2004 1:33 PM

To: Low Power Amateur Radio Discussion

Subject: LCD modules

Group:

Why would it ever be necessary to read back from an LCD module?

I can't think of any.

Therefore can the 'R/W' pin be tied to the write level to save an I/O =  
pin on  
my PIC?

cheers,  
rich

-----  
Date: Tue, 24 Feb 2004 12:29:15 -0700

From: "Rod N0RC" <rc7039-hr@yahoo.com>

To: "qrp-1" <qrp-1@Lehigh.EDU>

Subject: [169031] And now for something FREE!!!

Message-ID: <004c01c3fb0c\$7f78fa40\$6401a8c0@greyrock>

MIME-Version: 1.0

Content-Type: text/plain;  
charset="iso-8859-1"

Content-Transfer-Encoding: 7bit

Folks, I have a 30m Rock-Mite available.

30m you say? YEP it is a converted 40m unit.

The PBC is assembled and the unit is working.

It is not in a case, I will mount it in an Altoids tin if you wish, and that too is free. No shipping, taxes, service, good will, tips, or any other kind of payment is required. Heck, I'll even ship it to a non-US QTH for free!

The 40m kit was a gift to me, as were the conversion parts. I had my fun with it, now it is time to "share the wealth". When you tire of it, give to somebody else, as I am giving it to you. Please don't sell it.

73, Rod NØRC

-----  
Date: Tue, 24 Feb 2004 14:38:40 -0500  
From: "John J. McDonough" <wb8rcr@arrl.net>  
To: "Low Power Amateur Radio Discussion" <qrp-l@lehigh.edu>  
Cc: <rjohnson390@comcast.net>  
Subject: [169032] Re: LCD modules  
Message-ID: <00b201c3fb0d\$ce360820\$090044c0@BrianBoru>  
MIME-Version: 1.0  
Content-Type: text/plain;  
                charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

The price for tying it to write level is really quite small. You can predict the timing of most LCD operations well enough for most purposes. You can get it a little faster if you watch the LCD rather than using a pre-set delay, but unless the LCD is quite large, the performance improvement will be invisible. It can also be handy to be able to ask the LCD where it is or what's in it's memory, but again, this is only useful in fairly complex applications which typically would involve a larger LCD.

If what you want to do is splat a frequency up on the LCD, there really is no point in fooling with the R/W line.

72/73 de WB8RCR      <http://www.qsl.net/wb8rcr>  
didileydadidah      QRP-L #1446 Code Warriors #35

----- Original Message -----

From: "Rich Johnson" <rjohnson390@comcast.net>  
To: "Low Power Amateur Radio Discussion" <qrp-l@Lehigh.EDU>  
Sent: Tuesday, February 24, 2004 1:33 PM  
Subject: LCD modules

> Group:  
>  
> Why would it ever be necessary to read back from an LCD module?  
> I can't think of any.  
> Therefore can the 'R/W' pin be tied to the write level to save an I/O pin  
on  
> my PIC?  
>  
>

> cheers,  
> rich  
>  
>  
>

-----  
Date: Tue, 24 Feb 2004 14:42:19 -0500  
From: "John J. McDonough" <wb8rcr@arrl.net>  
To: "Low Power Amateur Radio Discussion" <qrp-l@lehigh.edu>  
Cc: <list3@bhargavaz.com>  
Subject: [169033] Re: XTAL needed  
Message-ID: <00ce01c3fb0e\$511fac50\$090044c0@BrianBoru>  
MIME-Version: 1.0  
Content-Type: text/plain;  
          charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

Bummer on the frequencies -- 4.336 is a widely available frequency. Sounds like you may have to go to International. The bad news is they are expensive. The good news is they are good.

72/73 de WB8RCR      <http://www.qsl.net/wb8rcr>  
didileydadidah      QRP-L #1446 Code Warriors #35

----- Original Message -----

From: "Chetan Bhargava" <list3@bhargavaz.com>  
To: "Low Power Amateur Radio Discussion" <qrp-l@Lehigh.EDU>  
Sent: Tuesday, February 24, 2004 2:02 PM  
Subject: XTAL needed

> Hi Group,  
>  
> I'm looking for XTAL 4.332 MHZ and 8.664 MHz does anyone happen to know  
> source?  
>  
> 73,  
>  
> Chetan Bhargava KG6NFG  
> <http://www.bhargavaz.net>  
>  
>  
>



-----  
Date: Tue, 24 Feb 2004 13:10:47 -0700  
From: "John" <digi2@earthlink.net>  
To: <rjohnson390@comcast.net>,  
"Low Power Amateur Radio Discussion" <qrp-1@lehigh.edu>  
Subject: [169034] Re: LCD modules  
Message-ID: <002401c3fb12\$4b17a610\$6601a8c0@thnikpada20>  
MIME-Version: 1.0  
Content-Type: text/plain;  
charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

Read make and model of display?

John K7SVV

----- Original Message -----

From: "Rich Johnson" <rjohnson390@comcast.net>  
To: "Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>  
Sent: Tuesday, February 24, 2004 11:33 AM  
Subject: LCD modules

> Group:  
>  
> Why would it ever be necessary to read back from an LCD module?  
> I can't think of any.  
> Therefore can the 'R/W' pin be tied to the write level to save an I/O pin  
on  
> my PIC?  
>  
>  
> cheers,  
> rich  
>  
>

-----  
Date: Tue, 24 Feb 2004 15:38:03 -0500  
From: Steven Weber <kd1jv@moose.ncia.net>  
To: "Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>  
Subject: [169035] Re: LCD modules  
Message-ID: <3.0.6.32.20040224153803.007a0410@mailhost.ncia.net>  
Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

>> Why would it ever be necessary to read back from an  
>> LCD module?  
>> I can't think of any.  
>> Therefore can the 'R/W' pin be tied to the write  
>> level to save an I/O pin on  
>> my PIC?

Besides reading back the busy flag, you can also use the extra ram in the LCD for general use. But reading and writing to it is slow, and modern processors have plenty of internal ram, so hardly worth the effort to use it. I always tie the R/W line to write only, and save the I/O port for something else.

72,  
Steve, KD1JV  
"Melt Solder"  
White Mountains of New Hampshire  
<http://www.qsl.net/kd1jv/>

-----  
Date: Tue, 24 Feb 2004 16:11:30 -0600  
From: "Craig Johnson" <cbjohns@cbjohns.com>  
To: <qrp-l@lehigh.edu>  
Subject: [169036] Re: LCD modules  
Message-ID: <002901c3fb23\$283a4380\$6201a8c0@cbjp2>  
MIME-Version: 1.0  
Content-Type: text/plain;  
                charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

>The price for tying it to write level is really quite small. You can  
>predict the timing of most LCD operations well enough for most purposes.  
>You can get it a little faster if you watch the LCD rather than using a  
>pre-set delay, but unless the LCD is quite large, the performance  
>improvement will be invisible. It can also be handy to be able to ask the  
>LCD where it is or what's in it's memory, but again, this is only useful in  
>fairly complex applications which typically would involve a larger LCD.  
>

>If what you want to do is splat a frequency up on the LCD, there really is  
>no point in fooling with the R/W line.  
>

>72/73 de WB8RCR      <http://www.qsl.net/wb8rcr>  
>didileydadidah      QRP-L #1446 Code Warriors #35

I won't really disagree with John, but here is a slightly different take on it.  
During our PIC-EL design and development discussions, we talked about tying

the R/W line to ground. I insisted on not doing so because I wanted the ability to read the LCD's Busy bit. It would have been much easier to tie it to ground, but I wanted to have it available so that programmers can tinker with it.

The current version of PICELgen code (V 1.3) does turn around and look for the Busy bit for maximum efficiency. I played with one version in which it just waited for a default amount of time, as John suggests, and it did work. However, maximum efficiency was important to me when doing the PICELgen code. Why? Because of the tuning acceleration mechanism. In PICELgen, one large loop is used for reading the encoder, writing to the LCD, and writing to the DDS. Then it has to get back and catch the next encoder "transition" and to determine how long it took since the last "transition". The timing loop is already larger and less deterministic than I would like it to be, so the addition of potentially wasted time in the LCD write routine was something I wanted to eliminate. A long delay would result in missed "transitions" and thus a faulty acceleration calculation. Furthermore, remember that the PICELgen is really designed for use with an optical encoder with 512 "transitions" per revolution, not the mechanical encoder we use in the PIC-EL with 48 "transitions"

I readily admit that a programmer can experiment with a given LCD and determine the amount of time that is needed for a particular LCD and then use that time delay without any measurable detrimental effects. However, it is potentially different for every LCD. Because of this, programmers often just use a large default, to make it work with a variety of LCDs, and thus the cost may be measurable.

Please go ahead and experiment with this! Find out how much delay is necessary for various LCDs. Take a look at the PICELgen code to see how the turn-around works. What do you think?

72,  
-Craig, AA0ZZ

-----  
Date: Tue, 24 Feb 2004 16:19:34 -0600  
From: "sjolin" <sjolin@swbell.net>  
To: "Qrp-1 Reflector" <qrp-1@Lehigh.EDU>,  
"qrp-1@qth.net" <qrp-1@mailman.qth.net>  
Subject: [169037] Fox: Tonight's Hunt K2Q0 and N0IT  
Message-ID: <103401c3fb24\$48cb3fe0\$78d1fea9@DaveSjolin>  
MIME-Version: 1.0

Content-Type: text/plain;  
charset="Windows-1252"  
Content-Transfer-Encoding: 7bit

Greetings Hounds, tonight K2Q0 (Mark in NY) and myself, N0IT  
(Dave in MO) will be your foxi.

The FOX HUNT begins at 2000CST. It is a two hour hunt from 0200-0400 UTC 25  
February. K2Q0, Mark will be near 7.038 Mhz working UP and N0IT, Dave will  
be near 7.042 working UP.

Send your call once or twice (I prefer twice, not sure about Mark) around 2  
Khz up....then listen. For about the last 1/2 hour of the hunt or earlier if  
calls thin out, we will take calls near or on our freq. but initially,  
please use split and spread out a bit so we can make more contacts.

Please be patient and have FUN. We hope to hand out a lot of pelts. BCNU in  
the Hunt.

73/72                    Mark, K2Q0  
                          Dave, N0IT

-----  
Date: Tue, 24 Feb 2004 14:38:07 -0800  
From: "Chetan Bhargava" <list3@bhargavaz.com>  
To: "Low Power Amateur Radio Discussion" <qrp-l@Lehigh.EDU>  
Subject: [169038] Re: XTAL needed  
Message-ID: <001b01c3fb26\$e6139d40\$4301a8c0@Chetan>  
MIME-Version: 1.0  
Content-Type: text/plain;  
charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

Thanks John,

I'm trying to find them for my RDS decoder. It looks like I'll have to get  
the xtal from Europe.

73,

Chetan Bhargava KG6NFG  
<http://www.bhargavaz.net>

----- Original Message -----

From: "John J. McDonough" <wb8rcr@arrl.net>  
To: "Low Power Amateur Radio Discussion" <qrp-l@Lehigh.EDU>  
Sent: Tuesday, February 24, 2004 11:42 AM  
Subject: Re: XTAL needed

> Bummer on the frequencies -- 4.336 is a widely available frequency.  
Sounds  
> like you may have to go to International. The bad news is they are  
> expensive. The good news is they are good.  
>  
> 72/73 de WB8RCR <http://www.qsl.net/wb8rcr>  
> didileydadidah QRP-L #1446 Code Warriors #35  
>  
> ----- Original Message -----  
> From: "Chetan Bhargava" <list3@bhargavaz.com>  
> To: "Low Power Amateur Radio Discussion" <qrp-l@Lehigh.EDU>  
> Sent: Tuesday, February 24, 2004 2:02 PM  
> Subject: XTAL needed  
>  
>  
> > Hi Group,  
> >  
> > I'm looking for XTAL 4.332 MHZ and 8.664 MHz does anyone happen to know  
> > source?  
> >  
> > 73,  
> >  
> > Chetan Bhargava KG6NFG  
> > <http://www.bhargavaz.net>  
> >  
> >  
> >  
>  
>  
>

-----  
Date: Tue, 24 Feb 2004 17:55:11 -0500  
From: "Mike Yetsko" <myetsko@insydesw.com>  
To: <rjohnson390@comcast.net>,  
"Low Power Amateur Radio Discussion" <qrp-l@Lehigh.EDU>  
Subject: [169039] Re: LCD modules  
Message-ID: <00b901c3fb29\$74ec9b00\$0200a8c0@charter.net>  
MIME-Version: 1.0

Content-Type: text/plain;  
charset="iso-8859-1"  
Content-Transfer-Encoding: 7bit

> Why would it ever be necessary to read back from an LCD module?  
> I can't think of any.  
> Therefore can the 'R/W' pin be tied to the write level to save an I/O  
pin on  
> my PIC?

On most modules the R/W pin is just a select with the rest of the  
decode circuitry, designed for easy interface to uCs that have a R/W\*  
control line as opposed to separate RD\* and WR\* lines.

However, there are a few modules that have 'special functions' that  
can be read out of control registers, or even memory, but the times you  
have to do that are slim.

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End of QRP-L Digest 3207

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